

**Chesterfield
County
Hazard
Specific
Annex**

Part II

December, 1986
Revised November, 2000

CHESTERFIELD COUNTY
HAZARDOUS MATERIALS EMERGENCY PLAN ANNEX

PURPOSE

The Chesterfield County Hazardous Materials Emergency Plan is an Annex to the Chesterfield County Emergency Operations Plan. The purpose of this plan is to establish the legal and organizational basis for operations in Chesterfield County in response to any incident that involves, in whole or in part, hazardous materials, especially air releases. Contingency planning helps to save lives, property, and money in minimizing the effects of a disaster and expediting recovery operations. This plan satisfies the requirements of the Superfund Amendment and Reauthorization Act of 1986, Title III and its subsequent amendments through December, 2000.

The Chesterfield County Emergency Operations Basic Plan is the operating plan to this annex. The Basic Plan, as it will be referred to in this text, should be referred to for basic assumptions, assignment of duties, basic direction and control and for annexes, which include the function of participating departments within the County. The authority for adoption of the policy is incorporated into the Basic Plan.

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Chesterfield County, Virginia

Chesterfield County is in the Coastal Plain and Piedmont sections of east-central Virginia. It is bounded on the north by the City of Richmond and Henrico County; on the east by Henrico and Charles City Counties; on the south by Dinwiddie, Prince George, and Amelia Counties; and on the west by Amelia and Powhatan Counties. The James River forms the northern boundary, and the Appomattox River, the southern boundary. The county has an area of 300,400 acres, or 446 square miles.

From east to west, Chesterfield County is crossed by U.S. Highways 60 and 360; from north to south, by U.S. Highways 1 and 301 and Interstate Highway 95 and Route 288. The population in 1970 was 77,046, and in 1987 were 191,000, and in 1994 were 232,900, in 1997 were 250,000 and in 2000 it was 256,500. The largest towns are Chester, Midlothian, and Chesterfield Court House, the county seat.

Chesterfield County citizens are employed 19% in government, 13.6% in industry. Other employment in the county include wholesale and retail 28.2%, services 19.9%, construction 7.3%, transportation 5.8%, and finance, insurance and real estate 5.1%. Urban development has progressed rapidly during the past decade. Services are the fastest growing sector of the county's economy.

HIGH ACCIDENT LOCATIONS IN CHESTERFIELD COUNTY FOR 2000

HIGH ACCIDENT LOCATIONS BY SEVERITY:

	LOCATION	FATAL	PERSONAL INJURY	PEOPERTY DAMAGE	TOTAL
1	MIDLOTHIAN TK & COURTHOUSE RD	1	13	45	103
2	MIDLOTHIAN TK & BRANCHWAY RD		15	41	101
3	HULL STREET RD & COURTHOUSE RD		13	47	99
4	HULL STREET RD & GENITO RD		10	30	70
5	RT 10 & JEFFERSON DAVIS HY		10	30	70
6	MIDLOTHIAN TK & ROBIOUS RD		19	32	68
7	MIDLOTHIAN TK & BOULDERS PY		11	21	65
8	MIDLOTHIAN TK & ARCH RD		6	37	61
9	HULL STREET RD & OLD HUNDRED RD		9	23	59
10	HULL STREET RD & TURNER RD		9	23	59
11	MIDLOTHIAN TK & MALL DR		9	22	58
12	RT 10 & OLD STAGE RD		8	24	56
13	MIDLOTHIAN TK & SOUTHLAKE BL		9	19	55
14	MIDLOTHIAN TK & PINETTA DR		7	25	53
15	HULL STREET RD & HICKS RD		9	13	49

Note: Severity is determined by calculating six points for fatal, four points for personal injury and one point for property damage.

HIGH ACCIDENT LOCATIONS BY FREQUENCY:

	LOCATION	FATAL	PERSONAL INJURY	PEOPERTY DAMAGE	TOTAL
1	HULL STREET RD & COURTHOUSE RD		13	47	60
2	MIDLOTHIAN TK & COURTHOUSE RD	1	13	45	59
3	MIDLOTHIAN TK & BRANCHWAY RD		15	41	56
4	MIDLOTHIAN TK & ARCH RD		6	37	43
5	MIDLOTHIAN TK & ROBIOUS RD		9	32	41
6	HULL STREET RD & GENITO RD		10	30	40
7	RT 10 & JEFFERSON DAVIS HY		10	30	40
8	HUGUENOT RD & ROBIOUS RD		3	37	40
9	HULL STREET RD & DEER RUN DR		4	33	37
10	MIDLOTHIAN TK & BOULDERS PY		11	21	32
11	HULL STREET RD & OLD HUNDRED RD		9	23	32
12	HULL STREET RD & TURNER RD		9	23	32
13	RT 10 & OLD STAGE RD		8	24	32
14	MIDLOTHIAN TK & PINETTA DR		7	25	32
15	MIDLOTHIAN TK & MALL DR		9	22	31

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EMERGENCY RESPONSE

I. Mission

To protect the public from harmful effects when a hazardous material is released into the environment.

II. Organization

- A. The Fire Department Hazardous Incident Team should be notified immediately, and will assist the Incident Commander upon arrival. The Incident Commander is in charge of the scene. First responders, such as County Police personnel, will assume command until the arrival of the Fire Department. First responders or the Hazardous Incident Team should implement immediate protective action. The County Police Department is responsible for traffic control and directing evacuation. The Coordinator of Emergency Services is responsible for coordinating the response from the Emergency Operations Center.
- B. If the emergency is of such magnitude that local resources are inadequate, the following organizations are available to provide information and advice.
1. Virginia Department of Emergency Management, Hazardous Materials Officer, (804) 674-2400 or 1-800-468-8892.
 2. Chemical Transportation Emergency Center (CHEMTREC), 1-800-424-9300 (toll free).
 3. Pesticide Safety Team Network (PSTN), contact through CHEMTREC, 1-800-424-9300 (toll free).
 4. Pesticides - Department of Agriculture and Consumer Services, (804) 786-3798.
 5. Radioactive Materials - Department of Health, (804) 786-5932, 24 hr. (800) 468-0138.
 6. Etiological Agents - Department of Health (804) 786-5188.
 7. Oil or Other Polluting Substances in Water - Department of Environmental Quality, (804) 762-4000.
 8. Hazardous Chemicals - Division of Consolidated Laboratory Services, (804) 786-7905.
 9. Federal and State Assistance - Department of Emergency Management, (804) 674-2400.

Concept of Operations

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Immediate response to a transportation or fixed facility accident involving hazardous materials should be limited to aiding the injured and preventing access to the area surrounding the incident. The Hazardous Materials Incident Report form should be used to record the necessary information. The incident should then be reported to the Virginia Department of Emergency Management, which will provide technical guidance and coordinate assistance as required.

The U.S. Department of Transportation "Hazardous Materials Emergency Response Guidebook" has been developed for use by firefighters, police and other emergency services personnel when they are called to respond to an incident. It identifies the most significant hazardous materials and gives information and guidance for initial actions to be taken. All potential first responders should be familiar with and have ready access to this handbook.

Receipt of notification that an accident has occurred requires immediate action to evaluate and assess the situation. Time is of the essence and dictates immediate action to employ required emergency resources to control or contain the material involved, implement evacuation procedures, if required, and isolate the accident area to all but emergency services personnel. The legal duty for reporting, containment, and cleanup of hazardous substances incidents rests with the party responsible for the material prior to the incident. If the manufacturer, shipper, or other responsible party is unable to respond, neglects to take the proper steps, or lacks the capability to act, then local government, within its capability, must act to prevent or minimize injuries and property damage.

Local government has the primary responsibility for protecting the public. Depending upon the magnitude or severity of the situation, local government will take steps necessary to provide public warnings, initiate protective actions, and isolate the general area affected.

A working relationship has been established and is being maintained between local government and the management of local industrial plants where hazardous substances are used. Materials have been identified and planned response procedures have been coordinated.

Communications networks will consist of those employed in other peacetime emergencies but must be adequate to provide effective direction, control, and coordination of emergency operations peculiar to accidents involving hazardous materials.

An accident involving radioactive materials could result in the uncontrolled release of radiation and could pose a health hazard to those exposed, including emergency services personnel. Radiation measuring and detection instruments in the hands of trained personnel are the only means of gaining reasonably accurate information of the radiation level at the accident site. See Basic Plan, Functional

Radiological Protection.

The heads of law enforcement and fire and rescue services will help to insure that all personnel

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are adequately trained in the procedures for responding to accidents involving hazardous materials and that peak efficiency is maintained at all times. All law enforcement patrol cars, fire and rescue, and all other emergency services vehicles should contain a copy of the Hazardous Materials Emergency Response Guidebook.

All departments and agencies assigned duties to respond to an accident involving hazardous materials will develop and keep current procedures to insure an adequate response capability.

In the event of police response, because of the hazard which might exist or may develop through an accident, especially a derailment or overturned vehicle transporting hazardous materials, officers must exercise extreme caution. Therefore, police officers shall recognize that a hazardous material is present, assist in identifying the substance, and be in charge of evacuation should this be deemed necessary by the Incident Commander, Fire Chief, or County Administrator.

Emergency Management Actions - Hazardous Substances

1. Normal Operations
 - a. Develop plans and procedures for hazardous materials incidents. Coordinate with local industrial plants.
 - b. Provide or coordinate training for fire, police and rescue personnel so that they are prepared to recognize a hazardous materials incident and to promptly isolate and secure the accident scene.
2. Increased Readiness

(Not applicable. Hazardous materials incidents typically occur with little or no advance warning.)
3. Emergency Operations
 - a. Mobilization Phase

(Not applicable).
 - b. Response Phase
 1. Assess the situation. Detect the presence of and identify hazardous material(s). Refer to the Hazardous Materials Emergency Response Guidebook and Tab B.
 2. If hazardous materials are involved, isolate and secure the accident

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scene.

3. Notify the Fire Chief.
4. Establish and maintain direct communications between the local EOC and the Fire Chief, if he responds to the scene, or Incident Commander.
5. Reports to the State EOC. Request a technical analysis of the probability of a disaster, its likely consequences, and recommended protective actions. If the accident involves a transportation accident, establish and maintain contact with the railroad or trucking company involved.
6. Consider response alternatives to protect the public. Estimate potential harm without intervention. Consider evacuation.
7. Direct protective action, as appropriate.
8. Alert the hospital to be prepared to receive potential victims and of the nature of the hazard.
9. Conduct radiological monitoring, if appropriate. See Basic Plan, Functional Appendix 10: Radiological Protection.
10. Continue to provide periodic status reports to the State EOC.
11. Declare the area safe for reentry after danger has passed.

4. Recovery

Restore facilities and services. Assess damages. Request post-disaster assistance, as appropriate.

Reportable Chemical Releases from Business and Industry

According to the Superfund Amendment and Reauthorization Act of 1986, business and industry in Chesterfield County are required under Public Law 99-499, Section 304 as described in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA 302.4) and 51 CFR 34541 and CERCLA 103 (A) to report releases of the reportable quantities (RQ) to the community emergency coordinator for the local emergency planning committee and to the State Emergency Planning Commission. Business and industry will call 751-4400 for non-emergency reports and 911 for emergency releases. See EMOI #6..

These reports are located in Fire Administration, Emergency Management.

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Date _____

CHEMICAL RELEASE NOTIFICATION

Emergency (Requesting Fire Department response) Dial 911

Non-Emergency (Not requesting Fire Department response) Dial 751-4400

Address _____

Plant Name _____

Caller's Telephone Number _____

Do you need Fire, Police, or Rescue Departments to respond? Yes No

Do you have this situation under control? Yes No

1. Chemical name of substance released _____

Chemical Form: Solid Liquid Gas

2. Quantity (lbs. or gallons) _____

3. Date and time of release _____

4. Duration of release _____

5. Release was into: Air __ Surface Water __ Sewer __ Ground

6. Battalion Chief notified _____

Name _____ Time

* Complete if Fire Department Responds *

7. Name and phone # of person to contact for further information:

8. _____
Time and date the Assistant Emergency Coordinator was notified:

9. _____
Anticipated acute or chronic health risks:

10. _____
Advice on medical attention for exposed individuals (if appropriate)

11. _____
Proper precautions to take (including evacuation if appropriate)

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12. _____
Response actions to contain the release:

**OPERATIONAL POLICIES FOR TRANSPORT
OF PATIENTS EXPOSED TO A HAZARDOUS MATERIALS INCIDENT
BY HELICOPTER MEDEVAC SERVICES IN VIRGINIA**

The following operational policies have been developed by the State Medevac Committee representing the following helicopter medevac services licensed and/or operating in the Commonwealth of Virginia:

ARIES - Fairfax County Police Department
Life-Guard 10 - Roanoke Memorial Hospital (Roanoke)
Med-Flight I - Virginia State Police (Chesterfield)
Med-Flight II - Virginia State Police (Abingdon)
MedSTAR - Washington Hospital Center (Washington, D.C.)
Nightingale - Sentara Norfolk General Hospital (Norfolk)
U.S. Park Police - Washington D. C.

These policies were approved unanimously by the State Emergency Medical Services Advisory Board on January 29, 1988 and become effective immediately.

1. Helicopter Medevac services licensed and/or operating in Virginia will transport patients contaminated with gasoline, diesel or other motor fuels only after clothes have been removed and the patients have been decontaminated with soap and water.
2. No other contaminated patients will be transported by these helicopter medevac services. If the duty flight crew determines, based on available information, that there is no risk in transporting such patient, they may transport at their discretion.
3. Helicopter Medevac services will insure their flight crews are trained to Level I in hazardous materials.
4. Each helicopter Medevac service will make contact, coordinate, and exchange information with the nearest regional Haz Mat response team:

Henrico	Medflight I
Fairfax	AIRES, MedSTAR
	U.S. Park Police
Newport News	Nightingale
Roanoke City/County/Salem	Lifeguard
	MedFlight II
Harrisonburg/Rockingham/ Augusta	Pegasus

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5. Aviation Recommendations

- a. Staging area should be established 3-5 miles upwind or a safe distance, at pilot=s discretion, to assure no contact with any element of the hazardous material.
- b. Flight routes will be selected to avoid downwind danger zones.

6. Strict dispatching protocols will be established.

7. Consideration should be given to adopting standardized checklists.

8. Personal contamination records should be filled out on each crew member. (Baseline physicals are important for comparative analysis on all Haz Mat responders.)

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Mutual Aid Request

Pursuant to a fire mutual aid agreement by and between the City of Richmond, Henrico County and Chesterfield County signed May 1, 1976, and an agreement between the cities of Petersburg, Colonial Heights, Hopewell, and the counties of Prince George, Dinwiddie and Chesterfield signed September 25, 1981, all parties have agreed to provide fire fighting support within their available capabilities at the time the request for support is made. The provision of support is not mandatory if the fire apparatus is:

- A. Needed immediately in their own jurisdiction.
- B. In use within their own jurisdiction.
- C. Called away to fight a fire within their own jurisdiction.

Automatic response areas for fire incidents have been established with the following jurisdictions:

- City of Richmond
- City of Petersburg
- City of Colonial Heights

Automatic response areas for EMS incidents have been established with the following jurisdictions:

- City of Richmond (Chesterfield Fire Department Unit 443)
- City of Colonial Heights

The Chesterfield Fire Department continues to provide Advanced Life Support (ALS) personnel to Amelia and Powhatan Counties when requested. These jurisdictions must transport patients through long distance of Chesterfield County prior to reaching a hospital.

A mutual aid agreement also exists with Defense Supply Center of Richmond as well as Powhatan County. The decision to request outside assistance must be made by a Chief Officer or one acting legally in that capacity. Mutual aid coordination is also facilitated by a monthly meeting of emergency coordinators from Chesterfield, Henrico, Richmond, Dinwiddie, Hanover, Petersburg, other surrounding areas and the Virginia Department of Emergency Management. The Statewide Mutual Aid Agreement may be activated by calling the Virginia Emergency Operations Center at 674-2400.

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Emergency Notification

Should an evacuation become necessary, radio and TV stations will be notified by the county public information officer or a designated on-scene information officer. Telephone numbers can be found in the Emergency Assistance Telephone Roster, page 2-1, H.M.E.P. Annex. The Police Department, assisted by the Fire Department, Sheriff's Department and Rescue Squads, will use mobile loudspeakers to help insure that all residents in threatened areas have received the evacuation warning.

Chesterfield County Schools will be available for use as designated evacuation centers. The transportation of victims will be the responsibility of the county schools, by school bus.

Rather than evacuate an area it may be necessary to inform the public to stay inside their residences, close all windows and doors, turn off all air intake units such as air conditioners and window fans, and stay tuned to emergency information radio or TV station.

Public Service Announcements to educate the public on in-house sheltering have been made available to television stations in the greater Richmond area.

See County of Chesterfield Emergency Operations Plan, Functional Appendix 2: Emergency Public Information.

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Notifications of Duty Assistant County Administrator

Certain situations warrant the notification of the duty Assistant County Administrator on a 24 hour basis. These situations are as follows:

- A. Any situation that hampers the Fire Department in providing fire protection for the county.
- B. Major situations that result in the evacuation of county citizens.
- C. Any loss of life situations involving county employees.
- D. Any major disaster that occurs in the county.
- E. On major fire and rescue situations, notifications will be made at the discretion of the Duty Chief.
- F. Any Fire/Rescue situation involving the welfare of Board Members, or Department Heads and their immediate family.
- G. On loss of life fires.
- H. Severe weather warnings or conditions.
- I. Any time combined public safety operations are necessary (Police, Fire and/or Sheriff), or where/when significant Mutual Aid is provided to adjoining jurisdictions.
- J. Any time deemed necessary by the Chief of Department or Duty Chief.

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Public Information

The C.E.P.C. is aware that public information, consistent with the provisions of Title III of the Superfund Amendments and Reauthorization Act of 1986, is a key element of Chesterfield County's emergency response plan. The public information function involves free and ready access to this plan and to information about those hazardous materials that are located within Chesterfield County. It also involves a tested and proven plan for alerting and warning residents of any hazardous materials incident that might affect their lives, health and property. And finally, it involves developing, in advance, a workable and mutually agreeable plan whereby the print and electronic news media have access on a regular basis to information from responsible county officials during a hazardous materials incident.

Public Information Goals

Chesterfield County has in operation a program that:

- A) Allows interested county residents free access to this plan located at all public libraries, fire stations and rescue squads throughout Chesterfield County.
- B) Explains to county residents the procedure, including cost, for obtaining information about hazardous materials that are used, stored, or made in Chesterfield County through the Office of Emergency Management.
- C) Informs county residents about the methods that will be used to notify them about the location and potential danger of any hazardous materials incident within Chesterfield County through the Hazardous Materials Emergency Plan.
- D) Addresses the need to provide local news media representatives with accurate, timely and regular information about a hazardous materials incident while allowing emergency services personnel to do their jobs of protecting the lives and property of county residents.

Goals A, B, and C will be accomplished by a blanket information campaign that can be expected to reach virtually all of Chesterfield County's 200,000 residents. Among other things, the campaign includes a brochure that has been distributed to residents, and enhances public awareness through the use of the electronic and print media on a regular and timely basis.

Goal D has been accomplished by meeting with representatives of the local news media and emergency services agencies in order to develop and put into place a set of workable and working public information guidelines.

Accomplishing Goals

The C.E.P.C. has designed and printed a brochure for public distribution that contains, among other things, the following:

- A) The C.E.P.C.'s plans to maintain for the public complete copies of the emergency response

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plan at all county fire stations, at the volunteer rescue squad facilities, and at the County's public libraries.

- B) The procedures for obtaining information about hazardous materials is obtained from the county's emergency services division. Information will be taken from the M.S.D.S. information provided by reporting agencies and businesses in the county where materials are used, stored, or manufactured.
- C) The emergency response plan's recommended procedures for residents if a hazardous materials incident occurs that affects their lives, health or property. The procedures involve the various ways residents will be contacted in an emergency, such as door-to-door notification, use of mobile public address systems in affected neighborhoods, and the use of local radio and television stations to keep them apprised of developments.

The brochure has been distributed to county residents through the public school system and placement at strategic location such as libraries county buildings and public events. In addition, brochure copies are available from law enforcement officers and at fire stations, volunteer rescue squads and county libraries.

The committee has produced four, thirty-second second public services announcements information on weather and chemical emergencies, and personal disaster planning. The video is used for local public access television, and can be used for in-plant television for local businesses and industries, for showing to local civic and social organizations and to local government managers and employees such as school teachers.

- D) The committee recognizes the need of local print and electronic news media, in representing the public, to have access to accurate, timely and regular information about a hazardous materials incident. But it also is aware that emergency services personnel must have the time, space and lack of interference to do their jobs of protecting the lives and property of county residents.

A series of meetings among top representatives of the local media and top representatives of Chesterfield's emergency services agencies could produce a set of workable guidelines that would, in the event of a hazardous materials incident, allow both sides to do their jobs adequately and efficiently. At the present time such a group is being formed.

Conclusion

The committee believes these public information goals are realistic and achievable, and that the program can be carried out with a minimum of problems, given the enthusiasm of the committee members and the spirit of cooperation thus far exhibited by the local print and electronic media.

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Evacuation

The Director of Emergency Management is responsible for ordering an evacuation. However, in the event of a fire, hazardous materials incident, or other imminent emergency when lives are immediately endangered, the first responder or the Incident Commander may order evacuation. The Police Department, assisted by the Fire Department, is responsible for effecting evacuation. The Superintendent of Schools, assisted by the Social Services Department and the American Red Cross, is responsible for the reception and care of evacuees (see E.O.P. Functional Appendix 8). The Superintendent of Schools will provide school busses and drivers for the transportation of evacuees to the Evacuation Assembly Center, if required.

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Training

1. All current paid Fire personnel will receive Hazardous Materials First Responder Operations. Hazardous Materials is incorporated in Basic Recruit School for new Chesterfield County firefighters. Active volunteer firefighters will complete Haz Mat Awareness Certification. Haz Mat First Responder Operations has been incorporated into Volunteer Firefighter Level I.
2. Hazardous Materials Awareness is incorporated in Basic Recruit School for new Chesterfield County Police Officers.
3. Rescue Squad personnel will receive State Hazardous Materials Awareness Training as an objective.
4. The Hazardous Incident Team will be trained to State Hazardous Materials Technician or Specialist.
5. In the event of a hazardous materials incident the Hazardous Incident Team will respond with Haz Mat Technician, Offensive Tactical Capabilities tactics, if practical, and will notify the Department of Emergency Management if additional assistance is required.
6. The plan will be tested once a year to include the Hazardous Incident Team. This will be coordinated through the Fire Department Training and Safety Division and will be considered a training session. This is also a requirement of the Federal Emergency Management Agency (FEMA) for funding provided to Chesterfield County.

* Level II concept and criteria as recommended by the State Hazardous Materials Emergency Response Advisory Council (SHMERAC).

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Review of Emergency Operations Plan

The review and revision of the Chesterfield County Emergency Operations Plan will be the responsibility of the Emergency Management Coordinator. The plan will be reviewed every six months. In April, the review will consist of updates on telephone numbers and changes in personnel. In October, the plan will be reviewed for functional changes as well as numbers and personnel. The plan will be reviewed by the following:

- a. Chesterfield Emergency Planning Committee
- b. Internal Fire Department Personnel Committee
- c. Emergency Management Coordinator.

The plan will be tested through an exercise training incident at least once a year. At the post-incident review the plan will be evaluated and critiqued. At this time, the Assistant Emergency Services Coordinator will incorporate suggested functional changes as needed.

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Abbreviations & Terms

E.O.P.	Emergency Operations Plan
C.A.S.	Chemical Abstracts Service; A Columbus, Ohio organization which indexes information published in "Chemical Abstracts" by the American Chemical Society and provides index guides by which information about particular substances may be located in the "Abstracts" when needed. "C.A.S. Numbers" identify specific chemicals.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The Act requires that the Coast Guard National Response Center be notified in the event of a hazardous substance release. The Act also provides for a fund (the Superfund) to be used for the cleanup of abandoned hazardous waste disposal sites.
CFR	Code of Federal Regulations. A collection of the regulations that have been promulgated under U.S. law.
CHEMTREC	Chemical Transportation Emergency Center; a national center established by the Chemical Manufacturers Association (CMA) in Washington, DC in 1970, to relay pertinent emergency information concerning specific chemicals on request.
CPSC	Consumer Products Safety Commission; Federal agency with responsibility for regulating hazardous materials when they appear in consumer goods. For CPSC purposes, hazards are defined in the Hazardous Substances Act and the Poison Prevention Packaging Act of 1970.
CWA	See Clean Water Act.
DOL	U.S. Department of Labor; includes the Occupational Safety and Health Administration (OSHA).
DOT	U.S. Department of Transportation; regulates transportation of chemicals and other substances, to aid in the protection of the public as well as fire, law enforcement, and other emergency response personnel, particularly open transportation incidents occur involving hazardous materials.

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DOT Hazard	DOT requires that hazardous materials offered for shipment be labeled Class with the proper DOT hazard class. These classes include corrosive, flammable liquid, organic peroxide, ORM-E, poison B, etc. The DOT hazard class may not adequately describe all the hazard properties of the material. A chart of the various DOT hazard classes can be found after the abbreviations and terms.
EPA	U.S. Environmental Protection Agency; Federal agency with environmental protection regulatory and enforcement authority. Administers Clean Air Act, Clean Water Act, FIFRA, RCRA, TSCA, other Federal environmental laws.
FDA	The U.S. Food and Drug Administration; under the provisions of the Federal Food, Drug and Cosmetic Act, the FDA establishes requirements for the labeling of foods and drugs to protect consumers from misbranded, unwholesome, ineffective, and hazardous products. FDA also regulates materials for food contract service and the conditions under which such materials are approved.
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act; regulations administered by EPA under this Act require that certain useful poisons, such as chemical pesticides, sold to the public contain labels that carry health hazard warnings to protect users.
Flash Point to	The temperature at which a liquid will give off enough flammable vapor ignite if an ignition source is present.
Hazardous Material	Any chemical which is a physical hazard or a health hazard.
H.I.T.	Hazardous Incident Team
H.M.E.P.	Hazardous Materials Emergency Plan
Hazardous Ingredients	The hazardous substances that make up a mixture.
Health Hazard	A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed victims. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants,

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corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Inhalation The breathing in of a substance in the form of a gas, vapor, fume, mist, or dust.

LC Lethal concentration; a concentration of a substance being tested which will kill a test animal.

LD Lethal dose; a concentration of a substance being tested which will kill a test animal.

NFPA National Fire Protection Association; an international voluntary membership organization to promote/improve fire protection and prevention and establish safeguards against loss of life and property by fire. Best known on the industrial scene for the National Fire Codes - codes, standards, recommended practices, and manuals developed (and periodically updated) by NFPA technical committees. Among these is NFPA 704M, the code for showing hazards of materials using the diamond-shaped label or placard with appropriate numbers or symbols. The brief explanation on the next page illustrates the NFPA principle of using scales of 0 to 4 (low to high) to classify material hazard.

NIOSH National Institute for Occupational Safety and Health of the Public Health Service, U.S. Department of Health and Human Services (DHHS); Federal agency which recommends occupational exposure limits for various substances and assists OSHA and MSHA in occupational safety and health investigations and research.

NRC National Response Center; a notification center in the Coast Guard Building in Washington, DC U.S., with a toll-free telephone number (1-800-424-8802) which must be called when significant oil or chemical spills or other environmentally related accidents occur.

Also, Nuclear Regulatory Commission.

NTP National Toxicology Program. The NTP publishes an Annual Report on Carcinogens, a listing of potential carcinogens.

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OSHA	Occupational Safety and Health Administration of the U.S. Department of Labor; Federal agency with safety and health regulatory and enforcement authorities for most U.S. industry and business.
PEL	Permissible exposure limit; the legally enforced exposure limit for a substance established by OSHA regulatory authority. The PEL indicates the permissible concentration of air contaminants to which nearly all workers may be repeatedly exposed eight (8) hours a day, forty (40) hours a week, over a working lifetime (30 years) without adverse health effects.
pH	The symbol relating the hydrogen ion (H-) concentration to that of a given standard solution. A pH of 7 is neutral. Numbers increasing from 7 to 14 indicate greater alkalinity. Numbers decreasing from 7 to 0 indicate greater acidity.
Physical Hazard	A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.
ppb	Parts per billion; a unit for measuring the concentration of a gas or vapor in air - parts (by volume) of the gas or vapor in a billion parts of air. Usually used to express measurements of extremely low concentrations of unusually toxic gases or vapors. Also used to indicate the concentration of a particular substance in a liquid or solid. For example, one part per billion is analogous to one second every 32 years, or one penny out of \$10,000,000.
ppm	Parts per million; a unit for measuring the concentration of a gas or vapor in air - parts (by volume) of the gas or vapor in a million parts of air. Also used to indicate the concentration of a particular substance in a liquid or solid. For example, one part per million is analogous to one inch in sixteen miles, one minute every two years, or one penny out of \$10,000.
psi	Pounds per square inch; for MSDS purposes, a unit for measuring the pressure a material exerts on the walls of a confining vessel or enclosure. For technical accuracy, pressure must be expressed as <u>psig</u> (pounds per square inch gauge) or <u>psia</u> (pounds per square inch absolute; that is, gauge pressure plus sea level atmospheric pressure, of psig plus about 14.7 pounds per square inch). Also see mmHg.

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RCRA	Resource Conservation and Recovery Act; Federal environmental legislation, administered by EPA, aimed at controlling the generation, treating, storage, transportation, and disposal of hazardous wastes.
SCBA	See Self-Contained Breathing Apparatus.
Self-Contained Breathing Apparatus	A respiratory protection device that consists of a supply or a means of respirable air, oxygen, or oxygen generating material, carried by the wearer.
Specific Gravity	<p>The weight of a material compared to the weight of an equal volume of water; an expression of the density (or heaviness) of the material. Example: if a volume of a material weighs 8 pounds, and an equal volume of water weighs 10 pounds, the material is said to have a specific gravity of 0.8.</p> $\frac{8 \text{ lbs}}{10 \text{ lbs}} = 0.8$
Superfund	See CERCLA.
TLV	<p>Threshold Limit Value; a term used by ACGIH to express the airborne concentration of a material to which <u>nearly</u> all persons can be exposed day after day, without adverse effects. ACGIH expresses TLVs in three ways:</p> <p>TLV-TWA: the allowable <u>T</u>ime <u>W</u>eighted <u>A</u>verage concentration for a normal 8-hour work day or 40-hour work week.</p> <p>TLV-STEL: the <u>S</u>hort-<u>T</u>erm <u>E</u>xposure <u>L</u>imit, or maximum concentration for a continuous 15-minute exposure period (maximum of four such periods per day, with at least 60 minutes between exposure periods, and provided that the daily TLV-TWA is not exceeded).</p> <p>TLV-C: the <u>C</u>eiling limit - the concentration that should not be exceeded even instantaneously.</p>

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Toxic Substance	Any substance which can cause acute or chronic injury to the human body, or which is suspected of being able to cause diseases or injury under some conditions.
Toxicity	The sum of adverse effects resulting from exposure to a material, generally by the mouth, skin, or respiratory tract.
TSCA	Toxic Substances Control Act; Federal environmental legislation, administered by EPA, for regulating the manufacture, handling, and use of materials classified as "toxic substances".
UN Number	A registry number assigned to dangerous commonly carried goods by the United Nations Committee of Experts on the Transport of Dangerous Goods. The UN number is required in shipping documentation and on packaging as part of the DOT regulations for shipping hazardous materials.
SDA	U.S. Department of Agriculture; prior to 1971, USDA performed tests and issued approvals on respirators for use with pesticides. In 1971, the Bureau of Mines took over the pesticide respirator testing/approval functions - procedures later delegated to the Testing and certification Branch (TCB) of NIOSH.
Vapor Density	The weight of a vapor or gas compared to the weight of an equal volume of air; an expression of the density of the vapor or gas. Materials lighter than air have vapor densities less than 1.0 (examples: acetylene, methane, hydrogen). Materials heavier than air (examples: propane, hydrogen sulfide, ethane, butane, chlorine, sulfur dioxide) have vapor densities greater than 1.0. All vapors and gases will mix with air, but the lighter materials will tend to rise and dissipate (unless confined). Heavier vapors and gases are likely to concentrate in low places - along or under floors, in sumps, sewers and manholes, in trenches and ditches -where they may create fire or health hazards.
Vapor Pressure	The pressure exerted by a saturated vapor above its own liquid in a closed container. When quality control tests are performed on products the test temperature is usually 100 degrees Fahrenheit and the vapor pressure is expressed as pounds per square inch (psig or psia) - but vapor pressures reported on MSDSs are in millimeters of mercury(mmHg) at 68 degrees Fahrenheit (20 degrees C), unless stated otherwise. Three facts are important to remember:

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1. Vapor pressure of a substance at 100 degree Fahrenheit will always be higher than the vapor pressure of the substance at 68 degree Fahrenheit (20 degrees C).
2. Vapor pressures reported on MSDSs in mmHg are usually very low pressures; 760 mmHg is equivalent to 14.7 pounds per square inch.
3. The lower the boiling point of a substance, the higher its vapor pressure.

Waste Disposal
Methods

Proper disposal methods for contaminated material, recovered liquids or solids, and their containers.

TERRORISM

PURPOSE: The Chesterfield County Terrorism Plan is an Annex to the Chesterfield County Emergency Operations Plan. The purpose of this annex is to develop a coordinated response capability, to assess the threat of and vulnerability to terrorist acts within the county, and to plan, mitigate against, respond to, and recover from an actual terrorist incident.

ORGANIZATION

The Fire/EMS Department, Police Department, Information Systems Technology (IST) and/or Health Department will coordinate the response, depending on the type of terrorist incident:

Fire:	Hazardous Materials, fire, multi-casualty incidents (MCI), structural collapse
Police:	Bomb, civil disorder
Health:	Biomedical
IST:	Cyberterrorism

Because terrorism incidents are crimes, the Police Department will be in charge of the investigation of that crime.

TARGETS

Potential targets have been identified and risks assessed. The information is law enforcement sensitive and located in the Chesterfield County Office of Emergency Management.

CONCEPTS OF OPERATIONS

Should the incident or incidents be identified as possible terrorist events, the Virginia Emergency Operations Center will be notified. According to Presidential Directive 39, the Federal Bureau of Investigation is the designated lead federal agency for any terrorist event. The Virginia Department of Emergency Management will be the lead state agency in coordination with the Chesterfield Office of Emergency Management for consequence management. The State Police will be the lead state agency designated in a terrorist event and will coordinate with the county police for crisis management. Upon their arrival, if not already operational, a unified command will be established. See Table II

EMERGENCY MANAGEMENT ACTIONS:

1. Normal Operations
 - a. Develop, review, update, and maintain plans and procedures to provide services in time of a terrorist event.

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- b. Train all personnel from Fire/EMS, Police, Health, IST and skilled support personnel in the specifics of terrorism incidents, as time permits.
- 2. Increased Readiness:
 - a. If warning that an event will take place occurs, notifications include:
 - 1. Any threat should be reported to the Police Dept.
 - 2. Police will activate response procedures.
 - b. Most incidents will have no warning. Awareness levels should be maintained through training and reminders.
 - c. Assess potential needs from outside county resources.

2. Emergency Operations

a. Mobilization Phase

- 1. Alert personnel to standby status.
- 2. Begin to implement record keeping of all incurred expenses.
- 3. Activate the Emergency Operations Center, if appropriate.

b. Response Phase

- 1. Follow established procedures for explosion, fire, MCI, structural collapse, civil disorder, hazardous materials, biochemicals or cyberterrorism, as indicated.
- 2. The Chesterfield Police Dept will investigate potential threats.
- 3. Activate Disaster Recovery Team.
 - a. Activate Recovery Plan.

- b. Activate Critical Incident Stress Management Teams through Mental Health/Mental Retardation/Substance Abuse Department.

PROTECTION OF WORKERS AND CITIZENS

1. Due to the variety of weapons that can be utilized, the necessary level of protection will vary.
2. Safety will always be a primary focus:
 - a. Protect from hazards using time, distance and shielding. Distance is the most effective.
 - b. Once on the scene, isolate and deny entry.

TECHNICAL SUPPORT ASSETS/RESOURCES

1. Internal
 - a. The Health Department
 1. Epidemiological study capabilities
 2. Ability to mass immunize and administer medication
 3. Authority to quarantine or otherwise protect the public against known pathogens that present a risk
 - b. The Fire/EMS Department
 1. Emergency response capabilities include: fire response, EMS response (ambulances), Technical Rescue Team response, Dive Team response, and Hazardous Incident Team response.
 2. The County mobile command post
 - c. Emergency Management
 1. Emergency Operations Center
 - d. The Police Department
 1. Crime scene investigation
 2. Environmental crimes investigators

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- 3. Roadway traffic control
 - 4. Crowd control
 - e. IST
 - f. Public Affairs
- 2. External
 - a. Richmond City Haz Mat Team
 - b. Virginia Department of Emergency Management
 - 1. Emergency Operations Center
 - 2. Hazardous Materials Officer
 - 3. Terrorist Training Officer
 - 4. Henrico Regional Haz Mat Team
 - c. Other state resources
 - 1. National Guard Civil Support Team
 - 2. Virginia Occupational Safety and Health Dept. (for employees)
 - d. Federal resources from:
 - 1. Federal Emergency Management Agency
 - 2. Federal Bureau of Investigation
 - 3. Military